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Deviation of the Nasal Sæptum.

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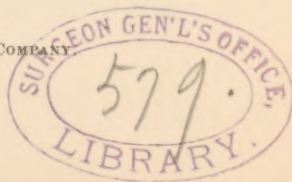
## THE OPERATION FOR DEVIATION OF THE NASAL SÆPTUM.\*

BY ARTHUR W. WATSON, M. D.,  
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It is said that the non-success of the treatment of a disease may be judged by the number and variety of the drugs recommended. If the same applies to surgery, surely, the number of methods that have been devised for correcting deviation of the nasal sæptum may be taken as an indication of the unsatisfactory nature of the results.

That the opinion of many writers agrees with this proposition is evident if we consult the latest works on the subject. Thus McBride says: "My experience has been that deviations of the sæptum are not a very satisfactory class of cases to treat"; Bosworth, after enumerating the various operations for straightening the sæptum, advises sawing off the projecting spurs and angles; Jarvis recommends removal of pieces of the deflected sæptum by the *écraseur*; Lennox Browne contents him-

\* Read before the American Laryngological Association at its eighteenth annual congress.



self with producing perforations by the galvano-cautery, and several writers recommend electrolysis (only another method of destroying tissue) in the treatment of deviations of the sæptum. Such methods do not correct the deviations and, it seems to me, are only an acknowledgment of failure.

The symptoms caused by a deviation of the sæptum are not confined to those arising from obstructed respiration. They include interference with drainage, obstruction of the outlets of the accessory sinuses, symptoms due to the abnormal size of the opposite nasal chamber, and that large class of affections caused by contact or pressure known as reflex. The relief of respiration, therefore, is not all that is called for in these cases.

Of those operations that attempt the straightening of the sæptum, the most important are: Adams's, forcible breaking of the sæptum, followed by metal plugs or splints; Steele's, incisions by the stellate punch, followed by plugs; Roberts's multiple incisions by the knife, the fragments retained by pins; Ingals's, excision of a wedge-shaped piece and suture; and Roe's, crushing by special forceps, followed by anti-septic plugs. Allen's operation, in which the base of the sæptum is detached beneath the mucous membrane and the sæptum moved toward the open side and retained by a plug, does not aim at reducing the deviation, but simply equalizing its encroachment on the nasal chambers. By all these methods, with the exception of Ingals's and Allen's, the curved sæptum is forced into a straight line, for which it is obviously too large, and for that reason the results must be but temporary in the majority of cases where the deviation is at all marked.



What, then, are the requirements of an operation for the correction of a deviated sæptum in order that the result may be permanent? This may be considered in two parts: The operation proper, or the method of reducing the deviation, and the means for holding the parts in position until healing has taken place.

Many of the operations devised have been unsuccessful because they lose sight of the fact that a deviated sæptum is larger than a straight one, and make no provision for reducing the amount of tissue. The first step, therefore, is to reduce the sæptum to a size that will fit into a straight line between the points of attachment. This can be accomplished by excising a portion of tissue in the general line of deviation. If the deviation is horizontal, an elliptical piece is removed, the incisions gradually converging at either end. If the line of deviation is vertical, a triangular or wedge-shaped piece is cut out, the apex being upward and extending as high as possible, and the base reaching to near the base of the sæptum, where it may be joined by a horizontal incision. Both forms of deviation are frequently met in the same case and then both incisions are to be made. The excised portion should include the protruding angle. The amount of tissue to be removed can be estimated by the eye. A very important point in this part of the operation, in my estimation, is to avoid cutting the mucous membrane on the side opposite to the incision, a point first noted, I think, by Dr. Ricardo Botey, as the membrane helps to hold the edges in line and thus facilitates union and prevents perforations. The incisions should be made on the convex side of the sæptum.

To bring the bony portion into line the crushing forceps can be used to advantage, and as the fragments slide

somewhat on each other it is unnecessary to remove any of this tissue. For this purpose Adams's crushing forceps is generally used, but I should think, although I have not tried it, that Dr. Roe's forceps would do better.

The second part of the operation, the method of retaining the sæptum, is, I think, very important. I believe one reason for failure in this operation to be that the retaining force is not kept up long enough.

In dealing with the cartilage it is well to remember that it unites by fibrous tissue, and that if the resilient cartilage is allowed too soon to exert its force this tissue will stretch and the deformity be renewed. I have found by experience that from three to four weeks should be allowed for the healing of the cartilage. I have known the supports to be removed within a week and even sooner, sometimes plugs being introduced afterward at night, sometimes frequent finger pressure being resorted to to keep the sæptum in place, which only stretched the parts and increased the tendency to relapse.

With this point in view it will be seen that hard substances such as ivory, wooden, or metal plugs, and tubes are inappropriate, as by their constant pressure they will produce pain and ulceration. All plugs accumulate secretions which become irritating and offensive, and if removed for cleaning give pain in reintroduction. Splints and clamps have some of the same objections, besides being inefficient. They are also conspicuous, which, as they should be worn for weeks, is important.



A pin (first suggested by Dr. J. B. Roberts, but not of the same shape or used in the same way) with a flat ring-

head, the ring covered by a piece of rubber tubing, I have found to be the best support for the cartilaginous sæptum. The pin is inserted from the concave side of the sæptum, just back of its anterior edge, and passed diagonally through to the other side, then across the vertical incision, if there is one, and then back into the sæptum until the head lies on the sæptum within the nostril. Care should be taken not to produce a deflection in the opposite direction. This method leaves both nostrils free for respiration and cleansing. I have found that if the head of the pin is padded as described, no ulceration takes place, and the pin can be worn for three or four weeks without discomfort.

As the pin supports the cartilaginous part only, the bony sæptum, when deviated, may require some other support. A piece of iodoform gauze, folded to as many thicknesses as is necessary and not more than a third of an inch wide and three quarters long, placed between the sæptum and outer wall at the point of deviation, will support the sæptum and give no inconvenience. The pad can be changed as often as necessary for cleanliness. As the bony portion unites more quickly than the cartilaginous, the pad can be dispensed with in a week or ten days, leaving the pin to do the rest.

In order to do this operation properly the parts must be well illuminated and as free from blood as possible. For this reason cocaine anæsthesia should be used in preference to ether.

In many cases, especially where the deviation is marked and low down, it is impossible to bring the lower fragment into line. The result is that there is nothing to meet the upper fragment and non-union results. To overcome this difficulty I have devised the following modification of the operation:



Instead of cutting out an elliptical piece along the horizontal line, I make an incision, which may be called a beveled incision. The edge of the knife is directed upward and toward the opposite side, and carried through the cartilage, but not the mucous membrane of the opposite side. The incision is made just on the crest of the deviation. Any vertical deviation is cut out as before described. The upper portion is then pressed over toward the other side, where it hooks itself on to the lower, and is thus held in place. This also uses up the redundant tissue. The projecting base can then (or after healing) be removed by the saw. This diagram will

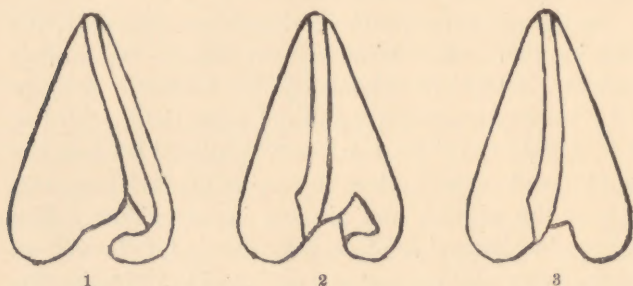


Diagram showing, 1. Deviated sæptum with line of incision. 2. Sæptum replaced, with spur standing. 3. Projecting spur removed.

perhaps convey a clearer idea of the method than my description.

I have used this method in a number of cases, and on subsequent examination, months after, have found the parts in good position, the only proof of success in these cases.

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